

Ningaloo

Collaboration Cluster

Weighing up the recreational experience

Deconstructing the recreational experience to understand its value and responses to management.

A survey of visitors to Western Australia's Ningaloo region has enabled recreational experiences to be valued in monetary terms and assessed in a site-management context.

Identifying and rating the elements of a good recreational experience can help to streamline recreation site management.

The full value of recreational benefits, however, is not captured in economic figures that tally expenditure by recreationists.

Research led by Atakelty Hailu and Michael Burton of the University of Western Australia has provided this capability for planners and managers at Ningaloo.

Visitor satisfaction

The Ningaloo survey captured recreational and demographic data from more than 400 visitors engaged in some 1100 trips at 40 Ningaloo sites, mostly bays and beaches. About a third of these trips involved recreational fishing.

Some of the survey participants kept log books. All participants rated site attributes and satisfaction with activities such as beach walking, snorkelling, swimming, swimming with animals, water sports, whale shark viewing and coral viewing.

Site values varied

Recreational sites such as Turquoise Bay, Coral Bay, Oyster Stacks, Gnarlaloo (surfing) and Yardie Creek were rated as very valuable. Coral Bay, Warroora and Yardie Creek were highly valued for fishing. Some sites were highly valued by both anglers and non-anglers particularly Coral Bay, Yardie Creek and Warroora.

At sites visited for fishing, key influences on site choice were the cost of access and the prospects of catching high value fish (reef fish and prize fish). Non-fishing site choice was influenced by the cost of access and factors such as accommodation locations, the condition of the ecosystem (corals and other sealife), aesthetic attributes (such as water clarity and scenery) and the type of recreational activities available.

Econometric modelling was used to link site choice to visitor demographic characteristics, site quality measures, and access costs. This modelling showed that sites varied widely in their recreational value, ranging from almost zero for some insignificant sites to above \$100 per trip per person. The highest value sites were isolated sites with unique values that are found at few other sites (those with few substitutes).





Working models

A second set of models, called agent-based simulation models, were developed to assess how different management approaches affect recreation enjoyment.

These models predict the impact of management changes in ways that account for differences between households and the availability of alternative sites for recreation.

They explore the impact of management changes such as site closure or fishing restrictions on different groups in society, as well as spill-over effects on other sites, and can be used by managers to weigh these effects against conservation benefits achieved on target sites.

Some of the modelling has provided counter-intuitive but interesting results. For example, policies that restrict access times for fishing can actually improve the recreational experience for anglers due to increases in fish stocks and catches.

The information and tools generated by this project are available to assist people with interest in recreation and tourism at Ningaloo and similar regions, and to groups including the Department of Fisheries WA, policy advisory groups, regional businesses, resource management communities, and the scientific community.

The models from this project will provide the recreational site choice components for the system wide model (InVitro) being developed by CSIRO.

The researchers are interested to know about potential management issues that could be studied using these methods. A final report on the project is available at: www.ningaloo.org.au/www/en/NingalooResearchProgram/Publications.html

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